

REMARKSA. Status of the Claims and Explanation of the Amendments

Prior to the submission of this paper, claims 1, 3, 4 and 6-9 are pending and have been rejected. In this paper, applicants have amended claims 1 and 8 and respectfully request the cancellations of claims 6 and 9 without prejudice or disclaimer. No new matter has been introduced. In light of the foregoing amendments and remarks, Applicants respectfully submit that all of the remaining claims (claims 1, 3, 4, 7-8) are in condition for allowance.

In the Office Action issued on February 27, 2006, the Examiner objected to claim 8 under 37 C.F.R §1.75(c) for allegedly failing to further limit the subject matter of a previous claim. The Examiner had rejected claims 1, 4, 7 and 8 under 35 U.S.C. §102(b) as allegedly anticipated by JP 09-271919 to Kohei et al. ("Kohei"). The Examiner had also rejected claims 1, 3, 4, and 6-9 under 35 U.S.C. §103, as allegedly being unpatentable over U.S. Patent No. 4,997, 622 to Regazzoni et al. ("Regazzoni") or U.S. Patent No. 5,073,207 to Faure et al. ("Faure"). Additionally, claims 3 was rejected under 35 U.S.C. §103 as allegedly being unpatentable over Kohei. Further, claims 6 and 9 were rejected under 35 U.S.C. §103 as allegedly being unpatentable over Kohei in view of Regazzoni.

B. Applicants' Claim 8 Is In Proper Dependent Form

The Examiner objected to claim 8 under 37 C.F.R §1.75(c) for allegedly failing to further limit the subject matter of a previous claim. Applicants have amended claim 8 to further limit an element recited by independent claim 1. Accordingly, respectfully request that the Examiner withdraw the objection to Applicants' claim 8.

C. Applicant's Claims Are Not Anticipated by the Cited References

Applicants respectfully traverse the rejections of claims 1, 4, 7 and 8 under 35 U.S.C. §102(b) as allegedly being anticipated by Kohei.

Amended claim 1 recites an average crystalline grain diameter indexing the structural roughness, the average crystalline grain diameter is 18 μm or less. In the Office Action dated February 27, 2006, the Examiner correctly indicated that Kohei does not disclose an alloy having an average crystalline grain diameter of 18 μm or less. Instead, Kohei discloses an average metal grain or pellet diameter of 3 mm or more, which is well above the limitation recited by Applicants' amended claim 1. (Kohei, p. 4, ¶[0010]). Accordingly, Kohei does not teach, disclose, or suggest all of the claim elements of Applicants' amended claim 1.

For at least the reasons discussed above, Applicants respectfully submit that amended claim 1 is not anticipated by the Kohei and that the §102(b) rejection of claim 1 should be withdrawn. Because claims 4, 7, and 8 depend therefrom and include all of the limitations of claim 1, for at least the reasons as above, Applicants believe that these claims are also allowable and respectfully request that the Examiner also withdraw the §102(b) rejections to these claims.

D. Applicant's Claims Are Patentable Over the Cited References

Applicants respectfully traverse the rejections of claims 1, 3, 4, and 6-9 under 35 U.S.C. §103 as allegedly being unpatentable over Regazzoni or Faure, the rejection of claim 3 under 35 U.S.C. §103 as allegedly being unpatentable over Kohei and the rejection of claims 6 and 9 under 35 U.S.C. §103 as allegedly being unpatentable over Kohei in view of Regazzoni.

Claims 6 and 9 have been cancelled. Accordingly, Applicants respectfully request that the Examiner withdraw the §103(a) rejections to these claims.

Regazzoni is directed to high mechanical strength magnesium alloys and process for obtaining these alloys by rapid solidification. Specifically, Regazzoni et al. describes an alloy material in terms of properties and conditions characteristic of extruding processes. Regazzoni is silent as to a magnesium alloy restricted in composition to Mg-Al-Ca-Mn. In fact, Regazzoni expressly teaches away from such an alloy stating that “[t]he presence of Mn is not necessary, if Ca is already present.” (Regazzoni, col. 3, lns. 24-25). In view of Regazzoni’s disclosure, one skilled in the art would have been led away from a magnesium alloy composition containing both calcium and manganese as recited by claim 1 of the present application.

“The fact that a claimed species or subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness.” MPEP §2144.08; see In re Baird, 16 F.3d 380, 382 (Fed. Cir. 1994). Instead, there must be some motivation to select the claimed species or subgenus. MPEP §2144.08.

Faure is directed to a process for obtaining magnesium alloys by spray deposition. In particular, Faure discloses economically obtaining a magnesium alloy having improved mechanical characteristics such as improved corrosion resistance. The Examiner noted in the Office Action that the lower limits for both zinc and rare earth metals, as disclosed by Faure, are at zero. However, Faure discloses a genus of magnesium alloys containing 0-3 % zinc and 0-4% rare earth metal, suggesting countless possible alloy compositions outside of the scope of Applicants’ claims and does not offer any suggestion or motivation to select the particular species of metal alloys containing both 0% zinc and 0% rare earth metals. Furthermore, Faure discloses the same magnesium alloy containing 0-1% manganese. Applicants’ claim 1

specifically recites a composition containing manganese in an amount of 0.1 to 1% by mass.

Faure also does not offer any suggestion or motivation to select the particular sub-genus of metal alloys containing 0.1 to 1% by mass of manganese. Accordingly, Applicants respectfully submit that a *prima facie* case of obviousness based on Faure has not been established.

Because claim 1 was amended to include the limitations of cancelled claims 6 and 9, in the interest of expediting the prosecution of this application, Applicants will now address the Examiner's §103(a) rejection of claims 6 and 9 with regards to amended independent claim 1.

The Office Action acknowledged that Kohei does not disclose a magnesium alloy having an average crystalline grain diameter of 18 μm or less. (Office Action dated Feb. 27, 2006, p.6). However, Regazzoni cannot be combined with Kohei to cure these deficiencies. As demonstrated above, Regazzoni does not contemplate a magnesium alloy restricted in composition to Mg-Al-Ca-Mn. Instead, Regazzoni teaches away from Applicants' claimed alloy compositions.

Additionally, Kohei teaches a magnesium alloy containing metal grains or pellets having an average diameter of 3 mm or more, which can then be used to improve the hardness of the alloy, which is a desirable material property. (Kohei, p. 4, ¶[0010]). Accordingly, in view of Kohei's disclosure, one skilled in the art would be led away from reducing the average diameter to a size less than 3 mm. Therefore, Kohei also teaches away from a magnesium alloy as recited by the Applicants' claims, which encompass magnesium alloy compositions containing an average crystalline grain diameter of 18 μm or less. Accordingly, Applicants respectfully submit that claim 1 is patentable over Kohei in view of Regazzoni.

For at least these reasons, Applicants respectfully submit that claim 1 is patentable over the cited references and request that the Examiner withdraw the §103(a) rejections to claim 1. Because claims 3-4 and 7-8 depend therefrom and include all of the limitations of claim 1, for at least the reasons as above, Applicants believe that these claims are also allowable and respectfully request that the Examiner also withdraw the §103(a) rejections to these claims.

CONCLUSION

Based on the foregoing amendments and remarks, Applicants respectfully request reconsideration and withdrawal of the rejection of claims and allowance of this application.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Amendment to Deposit Account No. **13-4500**, Order No. 5000-5141. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. **13-4500**, Order No. 5000-5141. A DUPLICATE OF THIS DOCUMENT IS ATTACHED.

Respectfully submitted,
MORGAN & FINNEGAN, L.L.P.

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By: Steven F. Meyer
Steven F. Meyer
Registration No. 35,613

Correspondence Address:
MORGAN & FINNEGAN, L.L.P.
3 World Financial Center
New York, NY 10281-2101
(212) 415-8700 Telephone
(212) 415-8701 Facsimile